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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/782,531	02/13/2001	Michael R. May	SIG000059	7547
7590	04/08/2004		EXAMINER	
Garlic, Harrison & Markison LLP P.O. BOX 160727 aUSTIN, TX 78716			HA, DAC V	
			ART UNIT	PAPER NUMBER
			2634	
			DATE MAILED: 04/08/2004	

4

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/782,531	MAY, MICHAEL R.	
	Examiner Dac V. Ha	Art Unit 2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
 THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 13 February 2001.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-19 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-19 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1, 10-12** are rejected under 35 U.S.C. 102(b) as being anticipated by Ma et al. (US 5,748,126) (hereinafter Ma).

Regarding claim 12, Ma teaches all the claimed subject matter in claim 12 as follows.

“generating a system clock” (Figure 4, element 445; Figure 8A, element 870; Col. 8, lines 35-38; Col. 12, lines 29-31);

“converting a frequency of first data … first channel frequency” (Figure 8A, elements 800, 810, 840, 870, 850; Col. 8, lines 39-58; Col. 12, lines 32-40; Col. 12, line 51 to Col. 13, line 8; Col. 13, lines 32-62);

“converting domain of … a second domain” (Figure 8A, element 880; Col. 13, lines 13-14);

“converting a frequency of second data … second channel frequency” (Figure 8A, elements 820, 830, 840, 870, 850; Col. 8, lines 39-58; Col. 12, line 41 to Col. 13, line 8; Col. 13, lines 32-62);

“converting domain of … a second domain” (Figure 8A, element 880; Col. 13, lines 13-14).

Regarding claim 1, see claim 12 above.

Regarding claim 10, Ma further teaches the claimed subject matter “wherein ... analog converter” in Figure 8A, element 880.

Regarding claim 11, Ma further teaches the claimed subject matter “wherein ... second data respectively” is known in Figure 8A, element 890; Figure 2, elements 222, 247.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 2-9, 13-19** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ma.

Regarding claim 16, Ma teaches all the claimed subject matter in claim 16 (similar to that stated above), except for the claimed subject matter “processing ... cause the processing module”. However, these claimed subject matter would have been design specific and would have been obvious to one skilled in the art as optional.

Regarding claim 2, Ma teaches all the claimed subject matter in claim 2, as stated above. Ma further teaches the concept of simultaneously converting between a first domain and a second domain in Figure 11; Col. 16, line 32 to Col. 17, line 38. Even though Ma only illustrates conversion from a second domain to the first domain includes

one channel, a person of ordinary skill in the art would have understood that more than one channel could have been implemented (i.e., as that applied for the conversion from a first domain to a second domain) without departing from its scope. Therefore, the claimed subject matter “third channel path … fourth channel frequency” would have been obvious to one skilled in the art based on the teaching from Ma above.

Regarding claims 13, 17, see claim 2 above.

Regarding claim 3, Ma teaches all the claimed subject matter in claim 2, as stated above. Ma further suggests the teaching of the claimed subject matter “a control module … respectively” in Col. 13, lines 33-61. That is “a control module” would have been obvious to one skilled in the art for achieving such calculation.

Regarding claims 14, 18, see claim 3 above.

Regarding claim 4, the claimed subject matter “receiver module … converted word” would have been obvious to one skilled in the art as optional in that the data in a first domain in Figures 4 and 8A could have been “a word” and the use of memory (i.e., buffer) for storing the data would have been optional.

Regarding claims 15, 19, see claim 4 above.

Regarding claim 5, Ma further teaches the claimed subject matter “integer rate conversion … converted word” in Figure 8A, elements 800, 820, 830, 840, 850, 860.

Regarding claim 6, Ma further teaches the claimed subject matter “interpolative rate … converted word” in Figure 8A, elements 800, 820, 830, 840, 850.

Regarding claims 7-9, see claims 4-6 above, respectively.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chan et al. (US 6,201,486) disclose Pre-Processing Of Multiple Sample Rates Sources To Simplify And Improve Multi-Channel DAC Design.

Watanabe et al. (US 6,215,948) disclose Magnetic Recording/Reproducing Apparatus And The Same Equipped With An Image Sensor.

Margrane (US 4,669,314) discloses Variable Focusing In Ultrasound Imaging Using Non-Uniform Sampling.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dac V. Ha whose telephone number is 703-306-5536. The examiner can normally be reached on 5/4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 703-305-4714. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 09/782,531
Art Unit: 2634

Page 6



Dac V. Ha
Examiner
Art Unit 2634